



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,769	04/09/2004	Erol Sancaktar	089498-0354(CIP)	1443

7590 09/21/2006
Roetzel & Andress
222 South Main Street
Akron, OH 44308

EXAMINER

KING, BRADLEY T

ART UNIT	PAPER NUMBER
----------	--------------

3683

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/821,769

Applicant(s)

SANCAKTAR ET AL.

Examiner

Bradley T. King

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2 4-5 7-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 7-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 7 recites "the core has a rectangular cross-sectional shape". The original disclosure fails to support this feature, instead showing only cores of generally circular cross-section.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, and 9-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 6454251.

US 6454251 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 10 (figure 2c); and an outer layer of resin that is substantially devoid of said fiber tows, wherein the spring wire has a constant thickness and cross-sectional shape, and is generally uniform and free of any surface irregularities. US 6454251 further discloses using copper pipe as cladding which would provide an extremely smooth outer surface and constant cross-section.

Regarding claims 9-11, 6454251 discloses glass fibers and epoxy resins.

Regarding claims 12-20, note that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113: It is maintained that the structure implied by the process steps is substantially identical to that disclosed by the reference.

Claims 1-2, 4-5, and 8-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 2852424.

US 2852424 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 14 (note column 3, lines 70-75); and an outer layer of resin that is substantially devoid of said fiber tows (since the fiber tows are saturated with resin, an outer layer of some degree of thickness inherently exists between the tows and the outer tube 12), wherein the spring wire has a constant thickness and cross-sectional shape, and is generally uniform and free from

Art Unit: 3683

any surface irregularities. Note the cladding which would inherently provide an extremely smooth outer surface and constant cross-section.

Regarding claims 8-11, 2852424 discloses glass, rayon and epoxy resins.

Regarding claims 12-20, note that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. It is maintained that the structure implied by the process steps is substantially identical to that disclosed by the reference.

Claims 1-2, 4-5, and 9-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 4473217.

US 4473217 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 3; and an outer layer of resin that is substantially devoid of said fiber tows, wherein the spring wire has a constant thickness and cross-sectional shape, and is generally uniform and free from any surface irregularities. Note that the tape creates a "generally" uniform surface.

Regarding claim 9, see the abstract.

Regarding claims 10-11, US 4473217 discloses epoxy. Column 2, lines 56-58.

Regarding claims 12-20, note that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. It is maintained that the structure implied by the process steps is substantially identical to that disclosed by the reference.

Art Unit: 3683

Claims 1-2, 4-5, and 10-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 4991827.

US 4991827 discloses all the limitations of the instant claims including; a spring wire comprising a core 10 that includes a plurality of fiber tows; and an outer layer of resin that is substantially devoid of said fiber tows, wherein the spring wire has a constant thickness and cross-sectional shape, and is generally uniform and free from any surface irregularities. See figure 4, and column 4, lines 15-34.

Regarding claims 10-11, US 4991827 discloses epoxy. Column 5, lines 3-4.

Regarding claims 12-20, note that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. It is maintained that the structure implied by the process steps is substantially identical to that disclosed by the reference.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 6454251 in view of US# 6612556.

Art Unit: 3683

US 6454251 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 6454251 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 6454251 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 49918217 in view of US# 6612556.

US 49918217 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 49918217 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 49918217 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Art Unit: 3683

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 4473217 in view of US# 6612556.

US 4473217 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 4473217 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 4473217 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 2852424 in view of US# 6612556.

US 2852424 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 2852424 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 2852424 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Response to Arguments

Applicant's arguments filed 8/14/2006 have been fully considered but they are not persuasive.

It is maintained that the references either explicitly show a "substantially constant thickness and cross-sectional shape" as broadly defined by the claims, or the feature is inherent to the cladding or coating process. For instance, US 6454251 shows a resin outer layer (formed in pathways 12) that is substantially devoid of fiber tows. The combination of the core and outer layer forms a substantially constant thickness and cross-sectional shape due to the rigid cladding 1. Regarding Taylor, note figure 4 is the relied upon embodiment. This embodiment utilizes a sheath which would result in the "substantially constant" features required by the claims. See column 4, lines 15-34.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3683

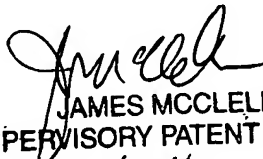
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T. King whose telephone number is (571) 272-7117. The examiner can normally be reached on 11:00-7:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan can be reached on (571) 272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BTK


JAMES MCCLELLAN
SUPERVISORY PATENT EXAMINER
9/18/06